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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,975	02/26/2002	David Lee Hosler	08935-5/P10	9039
39607	7590	09/09/2005	EXAMINER	
PETER K HAHN LUCE, FORWARD, HAMILTON, SCRIPPS, LLP. 600 WEST BROADWAY SUITE 2600 SAN DIEGO, CA 92101			FLETCHER, MARLON T	
			ART UNIT	PAPER NUMBER
			2837	
DATE MAILED: 09/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim merely recites a transducer with a housing, vibrating hardware, and a damping liquid disposed within the housing. The claim is incomplete and indefinite. There is no functional language for defining each element. (eg. "a housing for....; a vibrating hardware for; and a damping liquid for") Each element should have a function. Further there is no structural definition for the elements. How do they relate to each other.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: between the housing, the vibrating, and the damping liquid with respect to each element.

Claim Rejections - 35 USC § 102

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 13, 20, 25-26, 29, and 41, are rejected under 35 U.S.C. 102(b) as being anticipated by Kikuchi et al. (5,371,428).

Kikuchi et al. (claims 1 and 29) disclose a transducer (figure 1) comprising: a housing (1); vibrating hardware (2) (col. 4, ln. 60 through col. 5, ln. 3); and damping liquid disposed within the housing to at least partially surround the vibrating hardware (col. 2, lns. 38-49; col. 2, ln. 64 through col. 4, ln. 2; and col. 3, lns. 4-24 and lns 33-37).

Kikuchi et al. (claim 2) disclose the transducer of claim 1 wherein the vibrating hardware comprises: an electrical signal carrier (6, 7) disposed at least substantially within the housing, with the electric signal carrier being structured to carry an electrical signal; and a magnetic member (electrodes 212 and 213, which create a magnetic domain) disposed at least substantially within the housing, with the electric signal carrier and magnetic member being free to vibrate relative to each other (column 4, lns. 48-51; and col. 4, ln. 57 through col. 5, ln. 3).

Kikuchi et al. (claim 3) disclose the transducer of claim 1 wherein the vibrating hardware comprises: a piezoelectric member made of piezoelectric material, with portions of the piezoelectric member being free to vibrate relative to each other (col. 4, ln. 60 through col. 5, ln. 3); and an electric signal carrier structured to be in electrical communication with the piezoelectric member (col. 4, ln. 57 through col. 5, ln. 3).

Kikuchi et al. (claims 4, 25, and 26) in view of the above, further disclose the transducer comprising: carrier connection hardware structured to physically connect the electrical signal carrier member to the housing (figures 1 and 2); member connection hardware structured to physically connect the magnetic member to the housing, with the carrier connection hardware and the member connection hardware being structured and located to allow the electrical signal carrier and the magnetic member to vibrate relative to each other (figure 2).

Kikuchi et al. (claim 5) disclose the transducer, wherein the housing is structured to be sufficiently liquid tight so that no substantial amount of damping liquid can escape from the housing (col. 5, Ins. 4-24).

Kikuchi et al. (claim 13) disclose the transducer, wherein the damping liquid is shock absorber liquid (column 5, lines 4-46).

Kikuchi et al. (claims 20 and 41) inherently disclose the transducer, further comprising an electric signal supply structured and located to supply an electric signal to the electric signal carrier, with the magnitude and time distribution of the supplied electric signal being sufficient to drive the electric signal carrier and the magnetic member to vibrate relative to each other.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al.

Kikuchi et al. is discussed above. Kikuchi et al. do not disclose a coil.

However Official Notice is taken with respect to it being well known in the art to use electromagnetic transducers for carrying an electrical signal and providing vibration, wherein the transducer includes a coil for carrying an electrical signal.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the well known teachings in the art with the apparatus of Kikuchi et al., because the teachings allow the piezoelectric transducer to be substituted with electromagnetic transducer structure, wherein vibration and signal transmission is provided.

8. Claims 17-19 , 39, and 40, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. in view of Fishman et al. (5,153,363)).

Kikuchi et al. are discussed above. Kikuchi et al. do not disclose a musical instrument.

However, Fishman et al. ('363) (claim 17) disclose a transducer for use with a musical instrument, wherein the electric signal carrier, the magnetic member, the carrier connection hardware, the member connection hardware and the damping liquid are structured and located so that acoustic vibrations of the musical instrument are

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sufficiently energetic to cause the magnetic member and the electric signal carrier to vibrate relative to each other (figures 1-5).

Fishman et al. ('363) (claims 18, 39, and 40) disclose the transducer hardware further comprising an amplifier for electrically amplifying the electric signal of the electric signal carrier (col. 4, Ins. 36-41).

Official Notice is taken (claim 19) with respect to it being well known in the art to use a speaker for transducing the amplified electric signal into acoustic vibration.

Fishman et al. (claim 42) further disclose a method of designing a musical instrument assembly, the method comprising the steps of: providing a musical instrument structured to output acoustic vibrations (figure 1); providing a plurality of transducers (34) provided for each string (16), with each transducer respectively comprising: an electrical signal carrier (28) structured to carry an electrical signal; using each transducer of the plurality of transducers to transduce the acoustic vibration of the musical instrument into a plurality of respective electrical signals (figures 1 and 2);

Official Notice is taken (claims 42 and 43) with respect to it being well known in the art to select optimal transducers for producing desired musical sounds.

Fishman et al. (claim 44) inherently disclose the method, wherein the review of the electric signals comprises the steps of: transducing the plurality of electrical signals back into output acoustic vibration; and listening to the output acoustic vibration (figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Fishman et al. with the teachings of Kikuchi et al.,

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because the teachings allow the transducer to be used in a musical environment, wherein electrical vibration is converted into sound.

Allowable Subject Matter

9. Claims 7-12, 14-16, 27, 28, 31-38, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claims 21-24 are allowed.
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO 892 form.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T. Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-w, F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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MTF
September 5, 2005



MARLON T. FLETCHER
PRIMARY EXAMINER